REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and following remarks. Applicant requests that claims 35–57, 60–72, 74–78 and 81 be cancelled without prejudice as being drawn to non-elected subject matter.

Applicant also asks that new claims 88–90 be added to the application. Support for the new claims is found in the originally filed specification as follows: support for claim 88 is found at page 11, lines 7 and 8; support for claim 89 is found at page 11, lines 14–16; support for claim 90 is found at page 11, lines 21–25. Thus applicant's new claims 88–90 add no new matter to the application.

Claims 1–34, 58–59, 73, 79–80 and 82–90 are in condition for allowance, and such action is respectfully requested.

Rejections Under 35 U.S.C. § 112

Claims 1, 16, 17 and 24 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention. Applicant traverses these rejections and requests that they be withdrawn.

With respect to claim 1, the Office action requested clarification as to the percentage of an expandable material recited, i.e., whether "percent" referred to weight or volume, and whether the recited percentage referred to the entire tablet or to the core alone. Pursuant to the Examiner's request, claim 1 has been amended to recite "25% by weight of an expandable material based upon total core weight." Support for this amendment can be found throughout the specification, such as in the working examples, where relative amounts are given as weight percentages.

Claims 16, 17 and 24 have been amended to correct the alleged lack of antecedent basis for "the n value." Claims 16 and 17 now recite "an n value" rather than "the n value." Claim 24 has been amended to depend from claim 4, which provides antecedent basis for "the belly band."

Applicant submits that the rejections under 35 U.S.C. § 112, second paragraph, are traversed by the foregoing amendments and remarks. Accordingly, applicant respectfully requests that such rejections be withdrawn.

Rejections Under 35 U.S.C. § 102

Claims 1–2, 9–10, 19–20, 22, 82–84, 86 and 87 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,183,780 to Van Balken et al. (Van Balken). Applicant traverses the rejection of these claims and requests that the rejection be withdrawn in view of the following remarks.

Applicant's composition is designed to have substantial swelling properties. For example, embodiments of applicant's compositions, as recited in independent claims 1 and 83, comprise "a mixture of expandable materials, or greater than 25% of an expandable material." As described at page 15, lines 24–27, of the present application, the expandable material can include a hydrophilic polymer, and such polymers will "swell sufficiently in the gastrointestinal tract such that a coating (overcoating) polymer film is ruptured to expose at least a portion of the tablet to gastrointestinal fluids."

In direct contrast, Van Balken describes a core "having no substantial swelling properties upon exposure to gastrointestinal fluids." Column 2, lines 29, 30 (emphasis added). This requisite feature of Van Balken's technology is reiterated throughout Van Balken's disclosure. For example, Van Balken states that "[t]he overall composition is chosen in such a way that an immediate release carrier, having no substantial swelling properties is obtained" Column 3, lines 39–42 (emphasis added). The Van Balken composition is described again as "having no substantial swelling properties upon exposure to gastrointestinal fluids." Column 3, line 53, (emphasis added).

As noted by the Examiner, at column 3, line 37, Van Balken recites that "a small amount of a compound having swelling properties, such as cross-linked carboxymethylcellulose, is added." Applicant finds no definition for "small amount" in Van Balken, but notes that the core compositions of Van Balken's working examples, as recited at column 7, line 12, comprise from about 0% to about 7% carboxymethylcellulose. In contrast, applicant's independent claims 1 and

83, as filed, recite "greater than 25% of an expandable material." In view of Van Balken's working examples and absent any definition for "small amount," applicant submits that "small amount" would not be interpreted by a person of ordinary skill in the art to mean equal to or greater than 25%, i.e., more than 3.5 times the highest percentage employed by Van Balken. Furthermore, Van Balken states at column 3, lines 20–25, that rupture of the coating occurs "as a result of the residual stress in the tablet core" and "[t]he difference with EP 0210540 is that the core of the present invention does not have swelling properties."

For the foregoing reasons, Van Balken does not teach applicant's tablet composition as recited in applicant's pending independent claims 1 and 83.

Claims 2, 9–10, 19–20, 22, 82 and 86–87 depend from independent claim 1, and claim 84 depends from independent claim 83. These dependent claims are allowable over Van Balken for the reasons stated above and further in view of the patentable combination of features recited in such claims.

Therefore, applicant respectfully requests that the rejections under 35 U.S.C. § 102(e) over Van Balken be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 1–34, 58–59, 73, 79–80 and 82–87 are rejected for allegedly being obvious under 35 U.S.C. § 103(a) over Van Balken in view of U.S. Patent No. 6,120,803 to Wong et al. (Wong). Applicant traverses the rejection of these claims under Section 103 (a) over Van Balken in view of Wong and requests that the rejection be withdrawn.

A *prima facie* case of obviousness based on a combination of references must include a basis for combining the references in the manner alleged to render the claimed invention obvious. MPEP 2143.01. *See also, In re Napier*, 55 F.3d 610, 613, 34 U.S.P.Q.2d 1782, 1784 (Fed. Cir. 1995) ("Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.") No such basis exists for combining Van Balken and Wong.

First, neither Van Balken nor Wong includes any suggestion for combining their teachings to make the present invention. For example, Van Balken does not appear to teach that

gastric retention according to Wong is desirable, nor does Wong appear to teach that immediate release according to Van Balken is desirable.

Indeed, the Van Balken and Wong patents are directed to mutually exclusive goals and therefore do not provide any motivation to combine their teachings. Van Balken, for example, is directed to a dosage form that provides rapid, complete release following a lag time. See, e.g., Van Balken's Figure 1, where zero drug release is shown until hour 10 and 100% drug release is shown at hour 11. The Van Balken dosage form apparently is designed to release active ingredient only after the dosage form has left the stomach. For example, at column 5, lines 15–39, Van Balken lists drugs that preferably are not released in the stomach, e.g. acid-labile compounds, such as peptides or oligonucleotides.

Contrarily, Wong is directed to a dosage form that is retained in the stomach, and reportedly exhibits sustained release without a lag time. See, e.g., Wong's Figure 8, where drug release begins immediately (at time zero) and continues for several hours. Thus the dosage forms of Van Balken and Wong are formulated to provide mutually exclusive release rates, and there is no suggestion that combining elements of the two different dosage forms would be desirable or would be successful.

The Office action cites no explicit recitation or implicit teaching of either Van Balken or Wong that provides the requisite suggestion or motivation to modify or combine the two patents. Thus, applicant submits that the Office action does not establish a *prima facie* case that the present application is obvious under 35 U.S.C. § 103(a) over Van Balken in view of Wong. Applicant therefore respectfully requests that the § 103(a) rejection be withdrawn.

Furthermore, combining Van Balken and Wong's teachings as suggested by the Office action would destroy their intended function, and thus the references are not combinable. *See, In re Fritch*, 972 F.2d 1260, 1265 n.12 (Fed. Cir. 1992), 23 U.S.P.Q.2d 1780, 1783 n.12 ("A proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose.") For example, as cited above, Van Balken teaches a core that does not swell substantially, and Wong at column 12, line 42, teaches a polymer matrix that "will swell in the stomach and facilitate retention" of the dosage form in the stomach. Wong's polymer matrix is swellable, which, as defined at column 9,

lines 44–48, means "that the polymer or polymer matrix is capable of imbibing fluid and expanding when in contact with fluid present." Wong's polymer matrix must swell substantially to avoid being expelled from the stomach through the pyloric sphincter. See, column 14, lines 49–59, where Wong states, "[g]enerally, for human applications the largest dimension of the device in the swollen state...should be greater than 7 mm, preferably 10 mm or greater, and most preferably 13 mm or greater during the period of residence in the stomach when active agent is being dispensed. Since the active agent formulation is intended to remain in the stomach for a sustained retention period, the effective diameter of the active agent dosage form...may have to be significantly larger than 13 mm, and may extend to more tha[n] 50 mm or greater." Thus, Wong's core must swell to be retained in the stomach, but must contact gastrointestinal fluid to swell.

However, if Wong's core composition were coated with Van Balken's coating composition, Wong's core composition would not contact gastric fluid and hence would not hydrate or swell sufficiently to be retained in the stomach. Thus, combining the two references would destroy Wong's intended function, and therefore the references are not properly combinable.

If a core composition having no substantial swelling properties as taught by Van Balken were surrounded by a band of insoluble material as taught by Wong, the core would rapidly disintegrate upon contact with gastrointestinal fluid and not provide any delayed release or gastric retention of the tablet. Thus, the combination would destroy Van Balken's and Wong's intended functions, and the references are not properly combinable.

For reasons cited above, even if, solely for the purposes of discussion, a suggestion or motivation existed sufficient to combine Van Balken and Wong as suggested by the Office action, the combination would be inoperative. The Office action alleges that Van Balken and Wong could be combined to create a dosage form that "ensures gastric retention for an extended period of time" that equals the sum of the lag time and the release time. However, as noted above, the proposed dosage form would not be retained in the stomach if it did not swell, and would not provide delayed release if it disintegrated. Therefore, the proposed modification of Van Balken in view of Wong would provide an inoperative species.

Thus, in summary, Van Balken should not be combined with Wong as alleged by the Office action for at least two reasons. One, no motivation or suggestion is provided sufficient to justify the combination. And two, if for purposes of argument, the teachings of Van Balken and Wong are combined, the combination undermines the stated objectives for each of the disclosures, and produces an inoperative species.

The Office action states that the features of applicant's claims 11, 12, 23 and 24 are not considered to be critical by the Examiner. Without commenting upon the criticality of features recited in these claims, applicant maintains that the recited features unexpectedly affect the *in situ* release rate of an active agent from the claimed tablets. For example, with respect to claim 11, applicant directs the Examiner's attention to page 11, lines 14–17, which describes *in situ* production of a support platform via rupture of the rate release modifying membrane "adjacent to or in the 'belly band' area of the tablet upon exposure to an aqueous fluid." The Examiner's attention is further directed to page 19, lines 12–15, where applicant discloses that the ratio of belly band width to tablet width "will influence the rate at which the polymer coating material ruptures to generate *in situ* the support platform." See also, page 18, lines 7–16, where applicant discloses the importance of forming the support platforms, which "influence drug release by acting as a barrier, or at least a partial barrier, for release from the portion of the tablet covered by the support platform." Applicant further discloses that "the barrier coat composition and thickness, alone or in combination with tablet shape and formulation can be modified to result in more or less effect of the support platform on drug release rate." Similarly, claims 12, 23 and 24 recite ratios of belly band width to tablet height or length, and thus further define the shape of the claimed tablets, which as noted above, affects the drug release rate.

The Office action states that the features of claims 58, 59 and 63 concerning rupture of the rate controlling membrane are not given patentable weight. Without commenting on the veracity of this averment, applicant maintains that claims 58, 59 and 63 are nonobvious over Van Balken in view of Wong. Applicant notes that this amendment requests cancellation of claim 63 without prejudice. Claims 58 and 59 depend from independent claim 1, and are allowable over Van Balken in view of Wong for the reasons stated above, and further in view of the patentable combination of features recited in these claims.

The Office action states, without reference to the currently pending claims, that in view of Van Balken and Wong, methods of administering a dosage form of the combined disclosures in a once-a-day or twice-a-day formulation are obvious. Without commenting on this statement, applicant asks that the Examiner direct applicant to the method claims allegedly rendered obvious by such a combination.

As noted in the Office action, claims 16, 17, 26, 27 and 30–34 include features that characterize the release of an active agent during "a portion of the drug release profile" in terms of an 'n value.' The Office action alleges that the release profiles disclosed in Wong render the features obvious over the prior art. Applicant disagrees and requests that any rejection based upon Wong's release profiles be withdrawn.

Wong's release profiles as disclosed in, e.g., Figures 8–11, illustrate sustained release over several hours from a tablet having a band but not a coating, i.e., release begins immediately and continues at about the same rate for several hours. Thus the release profile disclosed by Wong indicates typical sustained release for an uncoated hydrophilic matrix tablet from time zero through several hours. In contrast to Wong, claims 16, 17, 26, 27 and 30–34 of the present application are directed to active ingredient release from an expandable core that has been coated with an outer rupturable coating surrounding the core. Claim 16 has been amended to recite an active ingredient dissolution lag time, and claim 17 has been amended to depend from claim 16. Claims 26 and 27 also recite a lag time. Thus, according to claims 16, 17, 26 and 27, release of active ingredient versus time is non-linear as measured over three time points, zero, one hour, and, a later time point following the lag time, e.g., up to several hours later. In contrast, Wong, as illustrated by Figures 8–11, does not provide a lag time. Rather Wong's illustrated release profiles are linear.

Claims 30–34 depend from claim 3, which recites an over coating of an active ingredient. Neither Van Balken nor Wong teaches an over coating comprising an active ingredient. Indeed, such an over coating would be inconsistent with Van Balken's stated goal of "delayed immediate release." For example, placing an active ingredient in Van Balken's coating material likely would result in immediate release of the active ingredient without any lag time. Alternatively, such a coating conceivable could result in sustained release without a lag time. Both results are

inconsistent with Van Balken's stated goal of "delayed immediate release." Thus applicant maintains that claims 30–34 are patentable for these reasons and further in view of the patentable combinations of features recited in these claims.

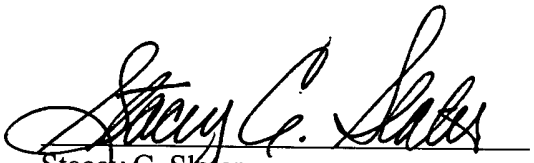
For the foregoing reasons, applicant respectfully maintains that the rejections under 35 U.S.C. § 103(a) are improper, or, in the alternative, have been overcome, and therefore requests that such rejections be withdrawn.

Conclusion

The application is in condition for allowance. Such action is respectfully requested.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By 
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Marked-up Version of Amended Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

1. (Amended) A tablet, comprising:

a core having (a) at least one active ingredient, and (b) a mixture of expandable materials, or greater than 25% by weight of an expandable material based upon total core weight, the expandable material or materials expanding upon exposure to an aqueous environment; and

an outer rupturable coating surrounding the core comprising a rate release modifying membrane and a water-soluble modifier.

16. (Amended) The tablet according to claim 15 having an active ingredient dissolution lag time, and [where the] having an n value [is]of 0.7 or more from time of 10% active ingredient released until time of 75% active ingredient released.

17. (Amended) The tablet according to claim [15 where the] 16 having an n value [is]of 0.85 or more from time of 10% active ingredient released until time of 85% active ingredient released.

24. (Amended) The [table] tablet according to claim [1] 4 where the belly band is equal to or larger than a vertical height of the tablet as measured at a center portion of the tablet.

30. (Amended) The tablet according to claim 3 where dissolution of active ingredient from the [overcoat] over coating and dissolution of active ingredient from [the] a coated hydrophilic gum matrix core tablet is approximately zero order in that [the] a calculated n value for average dissolution is greater than [at least] 0.70 from time of 10% [drug] active ingredient released until time of 75% [drug] active ingredient released.

31. (Amended) The tablet according to claim 3 where dissolution of active ingredient from [the] a coated hydrophilic gum matrix core tablet is approximately zero order, independent of [drug] active ingredient release from the [overcoat] over coating, in that [the] a calculated n

value for average dissolution from the coated core is greater than 0.70 from time of 10% [drug] active ingredient released until time of 75% [drug] active ingredient released.

32. (Amended) The tablet according to claim 3 where dissolution of the active ingredient from the [overcoat] over coating plus dissolution of active ingredient from [the] a coated hydrophilic gum matrix core tablet is approximately zero order in that [the] a calculated n value for average dissolution result is greater than 0.85 from time of 5% [drug] active ingredient released until time of 85% [drug] active ingredient released.

33. (Amended) The tablet according to claim 3 where dissolution of the active ingredient from [the] a coated core tablet is approximately zero order, independent of [drug] active ingredient release from the [overcoat] overcoating, in that [the] a calculated n value for average dissolution result from the coated core is greater than 0.85 from time of 5% [drug] active ingredient released until time of 85% [drug] active ingredient released.

34. (Amended) The tablet according to claim 3 wherein there is a burst dissolution of active ingredient(s) from the [over coated materials] over coating, and then [the] a calculated n value for average dissolution results for at least one active ingredient released from [the] a coated core tablet after [the] a lag time is greater than at least 0.70 from time of 10% release of the active ingredient in the core tablet is released until time of 75% of the active ingredient in the core tablet is released.

Applicant has requested that claims 35–57, 60–72, 74–78 and 81, which have been withdrawn by the Examiner from further consideration, be cancelled from the present application without prejudice.

83. (Amended) A tablet, comprising:

a core having (a) at least one active ingredient, and (b) a mixture of expandable materials, or greater than 25% by weight of an expandable material based upon total core weight, the expandable material or materials expanding upon exposure to an aqueous environment; and

an outer rupturable coating surrounding the core comprising a rate release modifying membrane and a film modifier.